Take the guesswork out of serial link design with **Quantum Channel Designer** (QCD) – SiSoft’s design and analysis environment for high-speed serial links. Its intuitive, graphical interface lets you capture and automatically evaluate hundreds of tradeoffs to optimize your serial link for cost, performance, reliability and compliance with design standards. QCD combines advanced modeling and simulation techniques with automation capabilities to let you focus on the task at hand – evaluating design tradeoffs at all stages of your development process. QCD is the first tool designed for both system designers and signal integrity specialists.

**OPTIMIZE YOUR CHANNEL AND SERDES IP**

QCD simulates end-to-end link behavior, allowing you to evaluate how different SerDes transceivers compensate for loss, reflections and crosstalk in the channel. Determine how you can reduce system costs **without** sacrificing reliability, or assess how new SerDes transceivers can boost the performance of a legacy backplane. Superior support for IBIS-AMI models lets you assess the unique capabilities of each vendor’s technology.

Automated pre-route design space exploration varies key design parameters to identify the impact on voltage and timing margins. Co-optimize your channel design and SerDes configuration to meet performance, cost, and reliability goals. QCD’s simulation modes allow you to trade off simulation speed versus accuracy. Use statistical simulation to run thousands of simulations within minutes, identifying cases suitable for detailed time-domain analysis. QCD reports key design metrics (e.g. insertion loss, eye height, BER or compliance to a design standard) so you can compare alternatives and track trends as your design progresses.

**VALIDATE ENTIRE-SYSTEMS POST-ROUTE**

QCD automatically extracts post-route topologies to perform postroute analysis, letting you validate every channel in your entire system. QCD’s simulation farm support lets you analyze an entire system overnight, and create scatterplots of system performance to zero in quickly on problem areas.
QCD DESIGN KITS

Quantum Channel Designer Certified Design Kits accelerate your design cycle by providing ready-to-run setups for vendor models. Determine design margins by importing your channel model and re-running simulation - a process that takes less than two minutes.

MOST CERTIFIED SERDES SIMULATION MODELS

SiSoft drove the development of IBIS-AMI and delivered the first reference models, test bench and commercial simulation tools. Working together with our semiconductor partners, SiSoft has developed and certified more IBIS-AMI models and design kits than anyone. Contact your SiSoft representative for the latest information on QCD Certified Design Kits.

THE BROADEST CORRELATION

SiSoft presented the Industry’s first IBIS-AMI performance and correlation results in mid 2008. Working with our semiconductor partners, we’ve correlated more IBIS-AMI models to reference data than anyone. We’ve also collaborated extensively with customers and partners to correlate interconnect models to hardware measurements. More information on our correlation work can be found on SiSoft’s eLearning web site, www.sisoft.com/elearning.

AUTOMATED STANDARDS COMPLIANCE

QCD Compliance Kits automate Design Rule Checks for popular interface standards like PCI-Express 1/2/3, Ethernet 802.3xx and others. QCD analyzes your design for compliance with time - and frequency - domain masks, automatically flagging violations. Key standards-based design metrics are also computed and reported, with violations automatically flagged.

ADVANCED FEATURES

QCD uses advanced algorithms processing for jitter and noise, provides support for retimer / redriver components and allows simultaneous optimization of TX and RX equalization settings.

BACKED BY SIPLATFORM’S EXPERIENCE IN HIGH-SPEED SYSTEMS DESIGN

SiSoft’s staff of recognized industry experts keeps SiSoft’s products at the forefront of high-speed design by using them every day to perform state-of-the-art design and analysis. SiSoft provides a full range of model development, design analysis and methodology training services. SiSoft’s consultants can analyze your high-speed design for you, or provide the tools and training you need to perform high-speed design analysis in-house.

CAD LAYOUT SYSTEM SUPPORT

Allegro®, Expedition PCB™, PADS, Board Station®, Pantheon®, Altium Designer, Zuken CR-5000, ODB++, EBD

To learn more about SiSoft’s products, contact sales@sisoft.com or visit our website at www.sisoft.com.

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